ABSTRACT OF THE DISCLOSURE

In a distortion compensation device which uses distortion compensation coefficients to subject distortion compensation processing to an input signal and supply the result of the distortion compensation processing to a distorting device, calculates the distortion compensation coefficients based on the input signal before distortion compensation and the feedback signal fed back from the output side of the distorting device, and stores the calculated distortion compensation coefficients in association with the input signal, (1) the feedback signal is AD-converted; (2) the AD-converted output is subjected to fast Fourier transform (FFT) processing; (3) the FFT calculation result is used to calculate the value of either the signal-to-noise ratio SNR, or the adjacent channel leakage power ratio ACLR, or the noise level; (4) the delay time occurring in the distorting device and feedback loop is adjusted such that the difference between the above calculated value at the current time and the above calculated value at the immediately preceding time is either zero, or is equal to or less than a threshold value; and, (5) this adjustment processing is repeated to determine the accurate delay time, and based on this delay time the timing of each of the portions of the distortion compensation device is adjusted.